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THE SUMMER VENTURES GUIDE TO SCIENCE AND MATHEMATICS COMPETITIONS FOR NORTH CAROLINA HIGH SCHOOL STUDENTS

THE SUMMER VENTURES GUIDE TO
SCIENCE AND MATHEMATICS COMPETITIONS
FOR
NORTH CAROLINA HIGH SCHOOL STUDENTS

1987 - 88 Edition

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The University of North Carolina's
Summer Ventures in Science and Mathematics
The North Carolina School of Science and Mathematics
Durham, North Carolina

PREFACE

This guide is a publication of Summer Ventures in Science and Mathematics, a statewide program of the University of North Carolina system administered by the North Carolina School of Science and Mathematics. Host institutions for the summer of 1987 included Appalachian State University, East Carolina University, North Carolina Central University, the University of North Carolina at Charlotte, the University of North Carolina at Wilmington, and Western Carolina University.

The editors are indebted to the directors of the listed competitions for providing information for the guide.

Names, addresses, telephone numbers, dates, deadlines, fees, and rules have been checked carefully but cannot be guaranteed. If you are interested in a specific competition, it would be wise to double check the critical information yourself.

Corrections, updates, and information about other competitions are welcome and should be sent to the Summer Ventures address given below.

Copies of this guide may be obtained for $3.00 each, which covers printing expenses. Send orders to: **Summer Ventures, P.O. Box 2976, Durham, NC 27705.** Checks or money orders should be made out to Summer Ventures.

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WHY COMPETE?

This guide has been written with a very specific purpose: to encourage more North Carolina students to become involved in science and mathematics competitions at the state and national levels. Traditionally, North Carolina has been under-represented in many national competitions, and many schools do not even take part in statewide contests. Here are some of the reasons that students give for this lack of participation:

"I don't think competition is a good thing. Why can't we all cooperate?"

As a matter of fact, professional scientists and mathematicians do a great deal of their work in a cooperative spirit. Teamwork is basic to the operation of most labs, and professionals are expected to publish their work, thus making their findings available to others in the same field.

But most scientists, engineers, and mathematicians spend part of their time applying for financial support for their work, writing papers for journals, and submitting titles for paper sessions at national meetings. In all of these activities, their work is critiqued by others, who decide whether it is worthy of funding, publication, or public debate. This process of peer review and criticism is certainly a form of competition, and it is one of the forces behind progress in science and mathematics.

"Why bother? I don't have a chance of winning."

If you plan to be a mathematician or scientist, now is the best time to get your first experience in a competition. You are right....the first time you compete, it is unlikely that you will win. But the experience will teach you how contests are run and what factors the judges take into consideration in their scoring. The second time through, you will be an old hand at it.

Remember too, that the competitions listed here are for students like you. None of the contestants will be college students or professionals.

"I'm a freshman (sophomore, junior). It's too early to be involved."

The earlier, the better! Almost all of the competitions listed in this guide are open to all high school students. There are a few, such as the Science Talent Search, that are open to seniors only. But if you are interested in entering these later, now would be a good time to learn about how they are set up. If you begin on a science project now for entry in some future year, you will have plenty of time to carry it out in the way you want. If you start entering math contests now, think of all the experience you will have by the time you are a senior!

"I'm a senior. It's too late to be involved."

There is still hope, even for you. If you have been working on a science project or have a pretty good idea for one, you may still have time to get ready for some of the spring competitions. Furthermore, all of the math competitions are straight contest events; no project is required.

"I have no facilities at school or home for doing a science project."

There are still plenty of competitions open to you, including all of the mathematics ones. Furthermore, as you will see, some science contests ask you to submit just a description of a proposed experiment; others involve writing essays about "science and society" issues.

"I'm good at , but I'm no good at (fill in the blanks)."

Regardless of what your strengths and weaknesses are, you can find a competition that is just right for you....one that will be both challenging and fun. Some contests require written papers; others involve building a model. There are competitions that reward imagination and others that emphasize practical know-how. You can find a contest that deals with social issues in science and one that includes tests of your puzzle-solving abilities.

"I don't know where to get the necessary forms (how to enter; what the deadline is; whether I'm eligible; whom to contact; etc.)."

In the past, this has indeed been a real problem. However, with this guide in your hand, you no longer can claim this as a valid excuse!

We assume that having had your former objections answered to your complete satisfaction, you will now jump into science and mathematics competitions with great enthusiasm.....we certainly hope so. Good luck to all of you!

SOME BASIC GUIDELINES FOR PRESENTING A SCIENTIFIC PAPER

Many secondary school science competitions are based on oral reports. Participating in these contests is great practice for your future career, since giving papers at scientific meetings is one of the most important ways that scientists communicate with each other about their work.

Here are some practical hints about giving a paper at a meeting:

1) Organize your talk so that it tells a story. An introduction, materials and methods section, description of results, and discussion should be included, but they should flow together naturally.

2) Explain your work at the appropriate level. Do not assume that your listeners have prior knowledge of your particular field but do not patronize.

3) Put your talk into outline form on notecards or a few sheets of paper.

4) Prepare graphs and tables needed to illustrate your talk. These should be clear and labeled. Prepare all slides and transparencies well in advance. Become familiar with any audiovisual equipment you will be using.

5) Do a private run-through with a friend or teacher. This will give you some experience in using a microphone and handling your audio-visual equipment. It also will give you a chance to see your slides on a screen and will allow you to time your talk. It should fit within the assigned time period, with a few minutes allowed for questions.

6) If possible, practice in front of your school's science club or other supposedly sympathetic group.

7) Make sure that audiovisual equipment will be provided. If you need a blackboard, make sure there is one in the room where you will be talking.

8) A few days before the meeting, check that everything is ready and in order:

   Your notecards should be in correct sequence and held together with a rubber band.
   Your slides should be packed in to a carousel in correct sequence and with proper orientation, etc.
   Borrow some chalk and a portable pointer from a teacher.
   Put all of your materials together in one safe place and do not forget them!

9) Get a good night's sleep the night before you give your paper. Eat breakfast in the morning. Dress appropriately and neatly. Make sure that you are well groomed. Do not chew gum or tobacco.

10) When you finally face your audience, speak at an even pace. Do not dawdle; do not rush. Avoid giggling and other distracting mannerisms. Use the microphone correctly and enunciate clearly. Keep your face toward the audience, even when using audiovisual aides. Finally, remember to smile! If you had a good time doing your research and show this in your presentation, your audience and the judges will enjoy it too.

Martha Jean Garrett
June, 1986

SOME BASIC GUIDELINES FOR WRITING ABSTRACTS

Abstracts are used for a variety of purposes in the scientific community.

* You may need to write an abstract as the first step of a competition.

* You may be required to send in an abstract to be printed in the program of a meeting where you will be presenting a report.

* You may need to write an abstract to be published in a post-meeting summary of the papers presented.

* You may be invited to submit an abstract to an index that catalogues all of the important work going on in a particular research field.

Abstracts play an important part in communication among scientists, and it is important that you know how to write one! Here are some basic rules:

1) Keep your title short and to the point. If you include a species name, give a basic taxonomic reference. For example: Trail Following in Ilyanassa obsoleta (Mollusca: Gastropoda).

2) Read carefully the directions about including name, address, school, sponsor, etc. and follow them to the letter!

3) Remember that some people will read your abstract before they hear you speak, some will read it afterwards, and some will never hear your talk. Do not, therefore, write such things as "During my talk I will explain ....." or "In my presentation I gave data that proved....."

4) The body of the abstract should state what you did and what you learned from it. You should be specific! For example, an abstract that only says "In my research I carried out experiments on the behavior of dragonflies" doesn't tell the reader very much!

5) Avoid excessive details about materials and methods. If the reader is really interested in what you did, he/she can write you for more details.

6) Avoid special terms that someone outside of your particular field would not know. If you absolutely must use such a term, do define or explain it.

7) Do not use the passive voice if it leaves questions about whether you are describing your own work or someone else's. If you can not think of any other way to be clear, use the word "I".

8) Check your spelling, grammar, and scientific notation carefully. Have a friend and/or teacher proofread the abstract for you.

9) Type the final version, using a word processor or typewriter. Make sure that the ribbon is fresh and the ink black.

Martha Jean Garrett
June, 1986

RESOURCES FOR SCIENCE PROJECTS

Listed below are some resources for science projects and the address from which to order them. Some of these publications are several years old, so be sure to order the proper title. There are many other such publications, but these are the ones of which we are currently aware. Please feel free to send us titles and addresses for publications you have used which may be of value to others in preparation for a fair or competition.

1) **Photography in Your Science Fair Project** (Kodak Publication No. AN-18)

Eastman Kodak Company
Consumer/Professional and Finishing Markets
Rochester, NY 14650
(716)724-2998

2) **"High School Science Projects-Suggestions for Execution of Experiments"**

The Junior Academy of
The New York Academy of Sciences
2 East 63rd Street
New York, NY 10021
(212)838-0230

3) **Thousands of Science Projects**

Science Service
1719 N Street, NW
Washington, DC 20036

4) **Nuts and Bolts, A Matter of Fact Guide to Science Fair Projects**

The Science Man Press
A Division of TSM Marketing, Inc.
4738 North Harlem
Harwood Heights, IL 60656

SCIENCE COMPETITIONS

Most science competitions have very specific rules about the type of research projects they accept and the format they require for an entry. These vary a great deal. Before you begin work on a piece of research for a particular competition, read through the complete rules carefully. Go through them again before you write your report.

If your school's science department has not received copies of the rules for a competition in which you are interested, write for them yourself. The addresses for the contests have been included in this guide for that purpose.

Some contests require a letter of recommendation or other evaluation from one of your teachers. You also may need to have your school's registrar or guidance counselor provide information about your grades and standardized test scores. Talk to these people as soon as you know what you will be needing, and be sure to give them plenty of time to fill out the necessary forms before the deadline.

Also, if you are lucky enough to have help available from a school media center in producing displays, slides, and other audiovisual aides, be sure to give the staff there adequate notice.

A final word of warning: in most cases, the papers and/or entry forms you submit are going to be photocopied so that several judges can read them. If you write in blue ink or use a faint ribbon on a typewriter or computer printer, the judges are going to be looking at lots of blank paper. Use black ink and new ribbons!

****** DURACELL SCHOLARSHIP COMPETITION

Type: National

Awards: College scholarships: $10,000 1st place prize; five 2nd place prizes of $3,000 each; and ten 3rd place prizes of $500 each. Cash prizes: twenty-five 4th place prizes of $100 each. Transportation to St. Louis for 1st and 2nd place winners, their sponsors, and their parents; a computer to the sponsors of the 1st and 2nd place winners, a gift certificate to the sponsors of 3rd place winners.

Eligibility: Open to all high school students in grades 9 - 12

Requirements: 1) A device of your own design that is portable, self-contained, able to operate independent of other supplementary equipment and runs on Duracell batteries; 2) a photograph--not a slide--of the device; 3) a one- or two-page typed description of the device; 4) a completed entry form; and 5) a flow diagram of the device.

Notes: The device should serve a practical function, such as making life easier, educating, entertaining, providing a warning, etc. There are very specific guidelines regarding battery size and type, polarity, soldering, etc. To enter, just send in the picture and description. If you are chosen as a national finalist, you will be asked to send in the device itself.

Deadline: February 8, 1988

For more information and to obtain entry forms:

Duracell Scholarship Competition
c/o NSTA
Lisa Ferrera
1742 Connecticut Avenue, NW
Washington, DC 20009
(202)328-5800

******** THE EXPLORER'S CLUB YOUTH ACTIVITY FUND GRANTS**

Type: National

Awards: Various amounts of cash to support field investigations anywhere in the world. In general, grants are made only to students who have pledges of matching support from other sources such as family or a corporation. The grants usually range between several hundred and one thousand dollars and can be used to cover transportation, subsistence, and expendable supplies and equipment.

Eligibility: Open to all students 16 - 24

Requirements: A formal application form, which includes information about your background and a description of your proposed investigation

Notes: This organization seems to be especially interested in students with a sense of adventure. It isn't likely to support a student who wants to go to Europe to work in a lab, but it may be supportive of one who wants to study sharks in the Great Barrier Reef or wild animals in the jungles of South America. You must have tentative arrangements made with the scientist with whom you want to work.

There are usually two funding periods during the year; one in the spring for summer projects and one in December for spring projects.

This group also funds undergraduates. If you're not ready now to go traipsing around the world, but you think you might be in a few years, keep them in mind!

Deadline: The applications will be ready in November 1987.

To obtain application forms and to submit proposals: The Explorers Club
Youth Activity Fund
46 East 70th Street
New York, NY 10021
(212)628-8383

****** JETS** (Junior Engineering Technical Society)

Type: State

Awards: Certificates, trophies

Eligibility: Local JETS chapters in North Carolina junior and senior high schools may participate. There is a limit to the number of individuals from each chapter who can compete in each event.

Requirements: The team competition is a quiz bowl. The individual events include designing and building paper airplanes, mousetrap cars, paper towers, and containers for an egg drop. There also is a public speaking contest; students may choose any science/technology issue as their topic.

Notes: Last year the state meeting was scheduled to coincide with an engineering fair sponsored by the Professional Engineers of North Carolina.

Date: March 19, 1988, at St. Mary's College in Raleigh, NC

For more information: Mr. Philip Dail
JETS State Competition Director
Garner Senior High School
2101 Spring Drive
Garner, NC 27529
(919)772-0155

****** JUNIOR SCIENCE AND HUMANITIES SYMPOSIUM**

Type: State/National/International

Awards: Certificates; free trip to national competition for state winners

Eligibility: Open to all North Carolina high school students

Requirements: 1) A completed entry form; and 2) a paper of not more than 1200 words describing a research project you have completed or are in the process of carrying out.

Notes: Judges will choose twenty entries from among those submitted from throughout the state. The students who wrote these papers will be invited to give talks about their work at the Symposium. In addition to the student presentation, the Symposium will include tours of labs and talks by professional scientists.

The five presenting students who are judged to have done the best research will be given an expense-paid trip to the National JSHS. The 1st place state winner will also compete for an expense-paid trip to participate in an International Youth Science Fortnight.

More students attend the Symposium than just those giving papers. Every student who submits a paper will be invited to attend. In addition, a limited number of schools will be invited to send a group consisting of one or more teachers of science or mathematics and two or more students who have aptitude or potential in these areas. To get your school on the list of schools that will be considered when invitations are issued, have one of your teachers write to the address given below.

Deadline: Papers have to be mailed no later than January 15, 1988.

Dates: February 28 - March 1, 1988

To obtain entry forms and to get your school on the invitation list:

Jo Duckett
1988 Director, JSHS
Center for Mathematics and Science Education
University of North Carolina at Chapel Hill
Peabody Hall 037A
Chapel Hill, NC 27514
(919)966-5922

******** NATIONAL SCIENCE LEAGUE**

Type: National

Awards: School and individual awards in each division will be based on the national ranking.

Eligibility: Open to all students in grades 6 - 12

Requirements: The high school must be a member of the National Science League and must pay a fee of $35 per division for each division in which that school chooses to compete. Participating students must be currently enrolled in a course corresponding to their division of competition. There is no limit to the number of students that may participate in each division.

Notes: Five contests in nine different divisions are scheduled for the 1987 - 88 school year. Each school sponsor (school contact person) may choose the order of the five contests (in each registered division) to correspond to their school curriculum. Each contest will consist of a set of 10 - 15 open-answer problems to be completed within 30 minutes. These contests are administered at the school by the sponsor.

Deadline: School entry deadline was October 9, 1987.

Date: The school will choose from the following: December 16, 1987; January 27, 1988; February 24, 1988; March 23, 1988; and, April 20, 1988.

For more information: National Science League
Box 9700
Coral Springs, FL 33075
(305)344-8980

******** NATIONAL YOUTH WORLD OF WATER AWARDS**

Type: Regional/National

Awards: Up to twenty winners from ten national regions will be invited to present their research.

Eligibility: Open to all high school students in grades 9 - 12

Requirements: 1) Completion of an aquatic science research project that has won at least one local award; 2) a paper describing the research; and 3) a completed official entry form.

Notes: Guidelines for the paper and other contest rules are described in the brochure.

Deadline: Entries must be received no later than May 1, 1988.

To obtain entry forms and application information:

Vicki Clark
World of Water Program
Mid-Atlantic Region (South)
c/o Mathematics and Science Center
2401 Hartman Street
Richmond, VA 23223
(804)788-4454

****** NORTH CAROLINA SCIENCE OLYMPIAD/NATIONAL SCIENCE OLYMPIAD

Type: State/National

Awards: Medals, trophies, and plaques; certificates and medals at national level

Eligibility: Middle school and high school teams from North Carolina may compete. Schools must join the national Olympiad at a cost of $30 per school. There is also a participation fee of $5 per student, which covers the cost of lunch.

Requirements: Individuals and teams may compete in over fifteen events ranging from Science Bowl and Pentathlon to Computer Programming and Name that Organism. The events are balanced between all the science disciplines and there is also balance between events requiring specific knowledge of facts or concepts and those requiring skills and applications.

Notes: The state program is affiliated with the national contest of the same name. This makes it possible for the state winners to participate in the national competition. The national contest includes earth science, biology, chemistry, and physics.

Deadlines: October is the national deadline for clubs to join the Olympiad program, and December is the deadline for returning registration forms for the state competition.

Date: Both state and national competitions were in the Spring in 1987.

For more information: Dr. Michael J. Baranski
Director
North Carolina Science Olympiad
Biology Department
Catawba College
Salisbury, NC 28144-2488
(704)637-4442

For more information on the national level: Joseph Quartararo
National Science Olympiad
P. O. Box 306
Hauppauge, NY 11788

****** NORTH CAROLINA STUDENT ACADEMY OF SCIENCE/AMERICAN JUNIOR ACADEMY OF SCIENCE

Type: District/State

Awards: Certificates, numerous small cash prizes, plaques, expense-paid trip to national meeting

Eligibility: Open to North Carolina students in grades 7 - 12. Participants must be members of the Student Academy, either through individual or club membership. Yearly dues are $5 for individuals and $10 plus $.50 per member for clubs.

Requirements: Students enter district competitions, where they present papers orally to the judges. A written version of the report is also required. Winners at the district level may proceed to the state competition. Two state winners are sent, all expenses paid, to the national meeting of the American Association for the Advancement of Science, where they exhibit displays about their research under the auspices of the American Junior Academy of Science.

Notes: The Academy adheres to strict guidelines about the use of live vertebrates. There are various categories for competitions; these divide students not only according to subject (chemistry, biology, etc.), but also into junior level, senior level, and a special advanced class for mentored research.

Deadlines: Deadlines are usually a few weeks before the meeting dates.

Dates: The state meeting is set for April 15 - 16, 1988. District competitions for the seven membership districts will take place in early March, 1988.

For more information: Charles Lytle
Executive Director, NCSAS
Biological Sciences Program
North Carolina State University
Box 7611
Raleigh, NC 27695-7611
(919)737-3341

******** ODYSSEY OF THE MIND**

Type: Regional/State/National

Awards: Certificates, trophies

Eligibility: Students must enter as teams, and their school must be a dues-paying member of the national OM organization.

Requirements: Teams enter solutions to various problems. These may involve putting on a skit or other performance, running a special kind of race, building an unusual vehicle, etc. Each team is judged not only on its problem solution, but also on the style of presenting the solution and ability of its members to come up with solutions to new problems encountered on the day of the competition.

Notes: Competitions are held at the regional, state, and national levels. Teachers sponsoring OM activities must register their school teams with the appropriate regional director in order to have them complete. Teams must win at each level in order to progress to the next.

Dates, sites, and directors for the 1988 North Carolina competitions are:

Coastal Regional (Ed. Regions 1,2)	Mar. 5	East Carolina Univ. Greenville	Ann Harrison Greenville City Schools P. O. Box 1009 431 West 5th Street Greenville, NC 27834 (919)752-4192
Eastern Regional (Ed. Regions 3,4)	Mar. 12	Athens Dr. H.S. Raleigh	Barbara Timberlake 3400 Rock Creek Drive Raleigh, NC 27609 (919)832-8935
Central Regional (Ed. Regions 5,6)	Mar. 26	Lexington H.S. Lexington	Elizabeth Jenkins 701 East Second Street Charlotte, NC 28230 (704)379-7120
Western Regional (Ed. Regions 7,8)		Contact this person for details	Eleanor Lofquist School of Ed./Psych. Western Carolina Univ. Cullowhee, NC 28723 (704)227-7108
State Tournament	Apr. 16	Rose H.S. Greenville	Ann Harrison Greenville City Schools P. O. Box 1009 431 West 5th Street Greenville, NC 27834 (919)752-4192
National	Jun. 2-4	Univ. of Md. College Park, MD	

Deadline: January 1, 1988, but teams registering this late will be at a disadvantage.

For more national information: Odyssey of the Mind
P.O. Box 27
Glassboro, NJ 08028
(609)881-1603

For more North Carolina information: Elizabeth Jenkins
(address given above)

****** **1988 SCIENCE ESSAY AWARDS PROGRAM** (Sponsored by Du Pont Company and Biology Bulletin Monthly in cooperation with NSTA)

Type: National

Awards: $1,500 first prize, $750 second prize, $250 third prize in both junior and senior divisions, plus $50 cash awards for 24 honorable mentions in each division

Eligibility: Open to students in grades 7 - 9 (junior division) and grades 10 - 12 (senior division)

Requirements: Detailed topic guidelines will be presented for student research. Students are encouraged to choose from one of these suggested topics or to develop one of their own.

Deadline: Entries must be postmarked no later than January 15, 1988.

For more information: 1988 Science Essay Awards Program
c/o Biology Bulletin Monthly
3500 Western Avenue
Highland Park, IL 60035
1-800-323-5471

****** **SCIENCE FAIRS/INTERNATIONAL SCIENCE & ENGINEERING FAIR**

Type: Regional/National/International

Awards: At the International Fair, 500 competitive awards with a top cash prize of $250, plus numerous special awards from about 50 different organizations. These include college scholarships, cash prizes, expense-paid trips, oceanographic cruises, etc. At regional fairs, various certificates, plaques, trophies, and participation in the state fair.

Eligibility: The International Science & Engineering Fair is open to all high school students who have won recognition at an affiliated science fair. Right now there are regional science fairs in all education regions of North Carolina. You will need to check with the director to find out if your regional fair is affiliated with the ISEF.

Requirements: At most fairs, your entry is a display that shows your work in poster form and three copies of an abstract, but oral presentations are also included in at least one.

All fairs have strict regulations about group projects, work on live vertebrates, etc. Be sure to read these carefully.

The state fair will have three categories of entries: 1) biological science, 2) physical science, and 3) earth science. Two entries from each category will be accepted (six from each regional fair.) Entries must be scientific investigations and must include a research report as well as a visual display of the project. Models, displays and demonstrations are not acceptable.

Notes: School, local, and city science fairs have not been included. The fairs listed cover areas that correspond, either exactly or roughly, with the state education regions. Your science teacher or school principal can tell you in which region you are. Some fairs allow schools from outside the region to participate.

If you want to enter a project, you usually must send in an entry form. In some cases, you also must send in an "intent to attend" form if you just want to go and see the exhibits.

Many of the regional fairs are collaborative efforts between North Carolina Regional Education Centers and various other institutions and therefore have co-directors. In such cases, only one of the directors is listed below.

Sites and directors for the 1988 regional science fairs are listed below. Please contact these people for dates and deadlines.

Region 1
Energy Expo
Elizabeth City

Wende Allen
Northeast Regional Education Center
Williamston, NC 27892
(919)792-5166

Region 2
Science, Math, and Computer Fair
Kenansville

Mr. Gene Boland
Southeast Regional Education Center
612 College Street
Jacksonville, NC 28540
(919)455-8100

Region 3
Central Regional Science Fair
Durham

Mr. Herman Gatling
Durham County Schools
P. O. Box 3823
Durham, NC 27702
(919)683-2591

Region 4
Pembroke State-Region 4 Science Fair
Pembroke

Dr. Jose D'Arruda
Pembroke State University
Department of Physical Science
Pembroke, NC 28372
(919)521-4214

Region 5 Regional Science Fair Winston-Salem	Mr. Stan Hill Forsyth County Schools Box 2513 Winston-Salem, NC 27102 (919)727-2509
Region 6 Southwest N.C. Regional Science and Engineering Fair Charlotte	Dr. William Yongue Southwest Regional Education Center 2400 Hildebrand Street Charlotte, NC 28216 (704)392-0378
Region 7 Regional Science Fair Hickory	Mr. John Caldwell Northwest Regional Education Center 303 E. Street North Wilkesboro, NC 28659 (919)667-2191
Region 8 Western Science Festival Cullowhee	Dr. Dick Berne Center for Energy and Environmental Education Western Carolina University Cullowhee, NC 28723 (704)227-7476
Statewide April 29, Greensboro	Dr. Ernest Lee Chairman of Local Planning UNC-Greensboro School of Education Greensboro, NC 27412 (919)334-5100
International May 8-14, Knoxville, TN	Science Service 1719 N Street, NW Washington, D.C. 20036 (202)785-2255

****** **SCIENCE TALENT SEARCH** (Westinghouse Science Scholarships and Awards)

Type: National

Awards: In 1986, $140,000 in scholarships and awards; $20,000 top scholarship; 10 scholarships and 10 cash awards given. Honors Group certificates to 300. Copies of certificates may be sent to college admissions offices and scholarship committees.

Eligibility: Participants must be in their last year of high school.

Requirements: 1) A 1,000-word report on an independent, individual research project you've carried out; and 2) a Personal Data Blank, which includes sections to be completed by you, a teacher, and school officials.

Notes: No group projects are eligible, but work you've done with the advice of a mentor is. No projects involving live vertebrates are allowed unless they are behavioral studies that do not harm the subjects. Any research involving human subjects requires a special form.

Deadline: Entries must be received by midnight, December 15, 1987.

To obtain application packets and submit entries:

Science Service
1719 N Street, N.W.
Washington, D.C. 20036
(202)785-2255

****** THOMAS EDISON/MAX MCGRAW SCHOLARSHIP PROGRAM**

Type: National

Awards: Two $5,000 scholarships plus expense-paid trips to an international symposium; ten $1,000 scholarships. Travel to National Science Teachers Association meeting for sponsors of top two winners.

Eligibility: Open to all high school students in grades 9 - 12

Requirements: 1) A proposal that may be an abstract of an already completed or projected experiment that deals with a practical application in the fields of science and/or engineering; 2) a single letter of recommendation from a teacher sponsor; and 3) a cover sheet with specific information such as your school's name and address, etc.

Notes: This contest is coordinated by the National Science Supervisors Association and the Council of State Science Supervisors, both of which are associated with the National Science Teachers Association. Its function is to identify students with "inventive genius." If you like to tinker with things, this is for you.

Deadline: Entries have to be postmarked no later than December 1, 1987.

To obtain contest rules and to submit entries:

Edison/McGraw Scholarship Program
c/o Robert A. Dean
P.O. Box 2800
La Jolla, CA 92038

****** UNC-ASHEVILLE SCIENCE DAY

Type: Statewide

Awards: Certificates, trophies

Eligibility: Open to all high school students in grades 11 - 12

Requirements: Schools need to register to participate; the registration fee covers the cost of lunch. Each school may send 30 students. Of these, three may be entered in the Mathematics Competition, and three may be entered in the Science Competition.

Notes: The mathematics and science competitions are just a part of the UNC-Asheville Science Day. In addition, there are about 40 activities, including hands-on exhibits, lectures, tours, and displays.

Date: October 29, 1987.

For more information: Dr. John Stevens
Science Day Coordinator
UNC-Asheville
Asheville, NC 28804-3299
(704)251-6122

MATHEMATICS COMPETITIONS

Mathematics competitions are arranged quite differently from ones in science. In general, you do not send in an entry yourself; instead, you are officially registered by your school.

Also, almost all of the mathematics competitions listed below are set up for teams. This is true even for meets that include individual events. The State High School Mathematics Contest, which is only for individuals, is the exception. Therefore, if you are interested in getting into math competitions, you should talk to a mathematics teacher about organizing and entering a team from your school.

****** AMERICAN REGIONS MATHEMATICS LEAGUE

Type: National

Awards: Certificates, trophies, plaques, checks, books, other awards

Notes: This is the final interstate meet of the year for many all-star teams representing smaller leagues. It is usually held somewhere in the Northeast. The team and individual questions are quite difficult. Registration is $75 per team. There are two divisions, one for the strong and one for the weaker teams, with parallel awards for both.

Date: June 3 - 4, 1988, one at Duke and one and Penn State

For more information: Alfred Kalfus
American Regions Mathematics League
23 Garfield Place
Roslyn Heights, NY 11577
(516)621-7577

****** ATLANTIC AND PACIFIC

Type: National; subscription/mailout.

Awards: Certificates, books to top individuals, plaques to top teams in each region

Eligibility: Open to all high school students

Notes: This is a comprehensive contest for high school students and exceptional junior high students. The cost per school is a membership fee of $50. There are six contests per year. The level of questions is such that many students can do well.

Dates: November 4, 1987; December 9, 1987; January 6, 1988; February 10, 1988; March 9, 1988; and April 7, 1988

For more information: Atlantic and Pacific
P.O. Box 11242
Elkins Park, PA 19117

******** COLLEGE OF CHARLESTON MATH MEET**

Type: Regional

Awards: Books, trophies, certificates. The College of Charleston admissions office receives a list of the top 100 winners.

Eligibility: Junior high and high schools in North Carolina, South Carolina, and Georgia are invited. Schools in other states may ask to attend.

Notes: The major event is a written exam; there are four versions designed for students at different levels of competency. In addition, the tournament includes multiple-choice relays, sprints, puzzles, and a ciphering bowl. The cost is $10 per student, which covers lunch and a T-shirt.

Deadline: February 15, 1988

Dates: February 26 - 27, 1988

For more information: College of Charleston Math Meet
Dr. Mary Dowlen, Coordinator
The College of Charleston
Charleston, SC 29424
(803)792-5730

******** CONTINENTAL MATHEMATICS LEAGUE**

Type: National; subscription/mailout

Awards: Certificates and medals to top students in each participating school; national awards as well as regional awards

Eligibility: Open to all students grades 2 - 9 and 12

Notes: Includes a calculus AB contest, computer contests at the junior and senior high levels, and two levels of tests for grades 4 - 9. There are four or five contests per year, except in the area of computers. Cost per team runs between $25 and $45.

For more information: Continental Mathematics League
P.O. Box 306
Hauppauge, NY 11788

******** GEORGIA STATE UNIVERSITY HIGH SCHOOL MATH TOURNAMENT**

Type: Regional

Awards: Individual certificates; trophies for top teams

Eligibility: Registration fee is $25 per school. Most of the schools are from the Southeast, but others may ask to attend. Participating schools must be members of the Georgia Athletic Association or of an athletic association that has a reciprocal agreement with it.

Notes: There are two levels of competitions. The tournament includes two curriculum-based tests, a team problem-solving event, and an individual ciphering contest.

Deadline: Probably mid-March, 1988

Date: Sometime in April; to be announced

For more information: Georgia State University High School Math Tournament
Dr. Fred Massey, Director
Department of Mathematics and Computer Science
Georgia State University
University Plaza
Atlanta, GA 30303-3083
(404)658-2245

******** NATIONAL MATHEMATICS LEAGUE**

Type: National; subscription/mailout

Awards: Ribbons, rosette ribbons, and plaques

Eligibility: Open to all high school students

Notes: The tests cover Pre-algebra, Algebra I, Geometry, Algebra II, and Analysis. Cost is $35 per division. There are five contests per year. Questions closely parallel standard curriculum materials.

Deadline: October 31, 1987

Dates: January 6, 1988, February 3, 1988, March 2, 1988, March 30, 1988, April 27, 1988

For more information: National Mathematics League
P.O. Box 9459
Coral Springs, FL 33075
(305)527-6411 or (305)344-8980

******** NORTH CAROLINA MATHEMATICS LEAGUE**

Type: State; subscription/mailout

Awards: Certificates; medals to top students within each participating school; plaques for top teams in each division

Eligibility: Any student enrolled in any public or private school with a 12th grade, or any student enrolled in 8th or 9th grade

Notes: There will be five mailout contests per year for seniors. The senior high cost is $35 per team (five members) and $5 per individual. There will be two subdivisions, one for smaller schools and one for larger schools.

This will be the first year for the junior high division, with three mailouts planned. All students will compete as individuals against students in similar grades and courses. The junior high cost is $5 per individual for a maximum of $20 per school.

There will be three contests on college campuses that will be open to NCML members.

For more information: North Carolina Mathematics League
John Goebel, Coordinator
North Carolina School of Science and Mathematics
P.O. Box 2418
Durham, NC 27705
(919)286-3366

******** TENTH ANNUAL STATE HIGH SCHOOL MATHEMATICS CONTEST**

Type: Regional/State

Awards: Certificates, plaques; top 20 are offered tuition scholarships by most North Carolina colleges and universities. The top 15 students and an alternate receive an expense-paid trip to compete in the American Regions Mathematics League competition.

Eligibility: Open to all junior high and high school students in North Carolina. Students must qualify at local contests to compete at the state level.

Notes: Regional contests are sponsored by the participating college or university. The State High School Mathematics Contest is jointly coordinated by the Mathematics Division of the State Department of Public Instruction and the North Carolina Council of Teachers of Mathematics. Winners in the regional competitions in Algebra I, Algebra II, and Geometry go on to a regional run-off while winners in regional Comprehensive competitions qualify for the State High School Mathematics Contest.

For students to compete, they need to be enrolled by their schools in a regional competition. The chairperson of your mathematics department will have all of the information and rules about enrollment, including the deadlines.

While regional contests have a variety of competitions, the state contest consists of a sprints competition (for fun) and individual competition for scholarships and other awards.

Deadlines: Contact the director of the appropriate contest.

Dates: The State High School Mathematics Contest will be held on April 28, 1988; so will the regional run-offs. Specific dates, sites, testing categories, and contest directors for the 1988 math contests will be announced to your school around November 1, 1987.

Region 1

April	Murfreesboro Chowan College	Algebra II & comprehensive Carl Simmons
March	Elizabeth City Elizabeth City State	Four subjects, jr. & sr. high Georgio Lawrence
April	Greenville East Carolina University	Four subjects, jr. & sr. high John Daniels

Region 2

March	Wilmington UNC-Wilmington	Comprehensive only Tommy Brown
April	Goldsboro Wayne Community College	Algebra I & comprehensive Al Strohm
April	Washington Beaufort Co. Comm. College	Algebra I run-off Grace Foster
March	Jacksonville Coastal Ca. Comm. College	Algebra I & II David Heatherly

Region 3

March	Wilson Atlantic Christian College	Comprehensive only Jerry Cooper
April	Raleigh N.C. State University	Geometry & Algebra II Bob Savage
April	Rocky Mount N.C. Wesleyan College	Geometry & Algebra II run-off Frances Harrison

Region 4

March	Buies Creek Campbell University	Comprehensive only Jerry Taylor
April	Pembroke Pembroke State University	Algebra I, Geometry, & Algebra II Fay McKethan
April	Fayetteville Fayetteville State Univ.	Algebra I run-off Leo Edwards
April	Carthage Sandhills Comm. College	Algebra II run-off Dawson Carr

Region 5

March	Chapel Hill UNC-Chapel Hill	Algebra I Hunter Ballew
April	Elon College Elon College	Comprehensive only Richard Haworth
April	Winston-Salem Wake Forest University	Algebra I Bob Evans
April	Greensboro N.C. A&T State University	Geometry & Algebra II Gilbert Casterlow
April	Lexington Davidson Co. Comm. College	Geometry run-off Robert Cole

Region 6

April	Salisbury Catawba College	Geometry Bill Palmer
March	Charlotte UNC-Charlotte	Algebra II & comprehensive
March	Wingate Wingate College	Four subjects, jr. & sr. high Cliff Adams

November	Misenheimer Pfeiffer College	Algebra I, Geometry & comprehensive Jean Mobley

Region 7

March	Boone Appalachian State Univ.	Algebra I & comprehensive Theresa Early
April	Banner Elk Lees-McRae College	Geometry & Algebra II Debbie Crocker
April	Hickory Lenoir Rhyne College	Run-offs - Algebra I, Algebra II, & Geometry Lloyd Smith

Region 8

April	Cullowhee Western Carolina Univ.	Four Subjects, jr. & Sr. high Ralph Willis

All regions

April	Durham N.C. School of Sci. & Math	Comprehensive only Dot Doyle

For more information: Dr. Robert Jones
Director, Division of Mathematics
Department of Public Instruction
State of North Carolina
Raleigh, NC 27611
(919)733-3602

or: Dr. Harold Reiter
Chairman, State Contest Committee
Department of Mathematics
University of North Carolina
Charlotte, NC 28608
(704)547-4561